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Table 1: Patient and disease characteristics and treatment details (n=101)

	N (%)
<i>Gender</i>	
Male	58 (57.4)
Female	43 (42.6)
<i>Tobacco use at diagnosis</i>	
Ex smoker	45 (44.6)
Current smoker	36 (35.6)
No smoker	17 (16.8)
Not recorded	3 (3.0)
<i>Anatomic subsite</i>	
Floor of Mouth	17 (16.8)
Tongue	52 (51.5)
Retromolar Trigone	10 (9.9)
Mandibular alveolus	15 (14.9)
Buccal mucosa	7 (6.9)
Hard palate	0 (0)
<i>pT stage</i>	
T1	11 (10.9)
T2	40 (39.6)
T3	9 (8.9)
T4a	41 (40.6)
T4b	0 (0)
<i>pN stage</i>	
N0	37 (36.6)
N1	16 (15.8)
N2a	1 (1.0)
N2b	36 (35.6)
N2c	10 (9.9)
N3	1 (1.0)
<i>Stage group</i>	
I	6 (5.9)
II	13 (12.9)
III	13 (12.9)
IVa	69 (68.3)
<i>Histopathological differentiation</i>	
Well differentiated	4 (4.0)
Moderately differentiated	53 (52.5)
Poorly differentiated	43 (42.6)
Unclassified	1 (1.0)
<i>Margin status</i>	
Positive (≤ 1 mm)	20 (19.8)
Close ($>1 < 5$ mm)	44 (43.6)
Clear (≥ 5 mm)	35 (34.7)
Not reported	2 (2.0)
<i>Perineural invasion</i>	
Yes	59 (58.4)
No	41 (40.6)
Not reported	1 (1.0)
<i>Lymphovascular invasion</i>	

Yes	50 (49.5)
No	48 (47.5)
Not reported	2 (2.0)
<i>Nodal involvement</i>	
Yes	73 (72.3)
No	28 (27.7)
<i>Nodal ECE (nodal involvement n=73)</i>	
Yes	30 (41.1)
No	43 (58.9)
<i>Surgery</i>	
Primary+Unilateral neck dissection	70 (69.3)
Primary+Bilateral neck dissection	27 (26.7)
Primary only	4 (4.0)
<i>Concurrent Chemotherapy</i>	
Yes	25 (24.8)
No	76 (75.2)
<i>Concurrent chemotherapy (n=25)</i>	
Cisplatin based	21 (84.0)
Carboplatin based	3 (12.0)
Cisplatin and Carboplatin Based	1 (4.0)
<i>Number of concurrent chemotherapy courses</i>	
0	77 (76.2)
1	2 (2.0)
2	22 (21.8)
<i>Radiotherapy dose</i>	
66 Gy in 33 fractions	53 (52.5)
60 Gy in 30 fractions	46 (45.5)
50 Gy in 25 fractions	1 (1.0)

Table 2: Lymph node levels irradiated with IMRT.

Nodal level (n = 101)	Ipsilateral neck radiotherapy (n=97)	Contralateral neck radiotherapy (n=53)
IA	52	30
IB	97	46
II	93	52
III	89	49
IV	90	47
V	55	21
VIIa	37	4
VIIb	28	1

Table 3: Details of analysis patients with locoregional recurrences (n=22)

Oral cavity subsite	pTNM (7 th edition)	Neck dissection	Adjuvant treatment	Failure site (related PTV)	Local versus regional recur.	Time to recur (months post RT)	%Vrec in 95% isodose	Mean dose to centroid/Gy	Recurrence classification
Tongue	T1N1	Unilateral	RT 60Gy Bilateral Neck	Contralateral neck level III OF	R	1	0	5.7	E (extraneous, neck)
Mandible	T4aN0	Bilateral	RT 60Gy Bilateral Neck	Buccal mucosa PTV60	L	3	36	59.1	B (peripheral, high dose)
Tongue	T2N1	Unilateral	RT 60Gy Unilateral Neck	FOM/ventral tongue PTV60	L	6	99	62	A (central, high dose)
Tongue	T2N0	Unilateral	RT 60Gy Unilateral Neck	Oral tongue PTV60	L	2	99	60.7	A (central, high dose)
Tongue	T2N2c	Bilateral	RT 60Gy Bilateral Neck	FOM PTV60	L	5	98	60.2	A (central, high dose)
Tongue	T2N2b	Unilateral	RT 60Gy Bilateral Neck	Ipsilateral level 2 LN PTV54	R	6	100	55	C (central, elective dose)
Tongue	T2N1	Unilateral	RT 60Gy Unilateral Neck	Contralateral neck level III OF	R	4	0	9.2	E (extraneous, neck)
Tongue	T1N0	None	RT 60Gy Unilateral Neck	Ipsilateral neck levels II-IVa and contralateral neck level 2 PTV60 (ipsilateral) and OF (contralateral)	R	28	Ipsilateral neck		A (central, high dose, ipsilateral neck) E (extraneous, contralateral neck)
							97	60.6	
							Contralateral neck		
							0	5.4	
Tongue	T4aN2c	Bilateral	RT 60Gy Bilateral Neck	Bilateral levels Ib PTV60	R	2	Ipsilateral neck		A (central, high dose, bilateral neck)
							100	61.5	
							Contralateral neck		
							100	60.2	
Tongue	T2N2b	Unilateral	RT 60Gy Unilateral Neck	Tongue Contralateral levels I-IVa OF	LR	9	Primary		A (central, high dose, primary) E (extraneous, contralateral neck)
							100	60.6	
							Contralateral neck		
							0	Multifocal, centroid of each >60Gy	
Tongue	T2N0	Unilateral	RT 50Gy Unilateral Neck	OF	R	0	0	Multifocal, centroid of each <50Gy	E (extraneous, neck)
Tongue	T2N2b	Unilateral	RT 66Gy Bilateral Neck	Ipsilateral level IVa PTV56	R	9	99	58.7	C (central, elective dose, neck)
Mandible	T4aN0	Unilateral	RT 66Gy Unilateral Neck	Contralateral mandible OF	L	8	2.6	26.9	E (extraneous, primary)
Tongue	T4aN0	Unilateral	RT 66Gy Bilateral Neck	Ipsilateral neck, levels II-III PTV66	R	4	100	67.8	A (central, high dose, neck)

Buccal	T4aN2c	Bilateral	RT 66Gy Bilateral Neck	Adjacent tongue PTV66	L	5	71.8	65.3	B (peripheral high dose)
Tongue	T4aN2b	Unilateral	RT 66Gy Unilateral Neck	Ipsilateral levels Ib-II, contralateral III PTV66	R	15	96	67.2	A (central, high dose, neck)
RMT	T1N1	Unilateral	RT 66Gy Unilateral Neck	Ipsilateral level II PTV66	R	8	100	66.5	A (central, high dose, neck)
Tongue	T4aN1	Unilateral	RT 66Gy Bilateral Neck	Oral tongue PTV66	L	9	98.1	67.2	A (central, high dose, primary)
Mandible	T4aN0	Unilateral	RT 66Gy Bilateral Neck	Posterior tongue, masticator space PTV66	L	6	85.5	67.1	B (peripheral high dose, primary)
Tongue	T2N0	Unilateral	RT 66Gy Bilateral Neck	Oral tongue adjacent to flap PTV66	L	4	84.6	67.0	B (peripheral high dose, primary)
Tongue	T2N2c	Unilateral	RT 66Gy Unilateral Neck	Ipsilateral levels II/III PTV60	R	4	20.6	58.6	D (peripheral, elective dose, neck)
Buccal	T4aN1	Unilateral	RT 66Gy Bilateral Neck	Ipsilateral levels I-III PTV60	R	1	60.1	60.5	D (peripheral, elective dose, neck)

L=local; R=regional; Vrec=recurrence volume; RMT=retromolar trigone; ECE=extracapsular extension; RT=radiotherapy; coreg=coregistration of diagnostic recurrence imaging with planning CT; OF=out-of-field; PTV=planning target volume